

ICHTHYOLOGICAL GENOTYPES: SOME SUPPLEMENTARY REMARKS.

By GILBERT WHITLEY *

(1) *The First Edition of the Nouveau Dictionnaire.*

In my paper on "Ichthyological Genotypes" on pp. 136-139 of this volume of the "Australian Zoologist", I gave a chronological list of books in which type-designations for genera of fishes might be found. This list commenced with the *Nouveau Dictionnaire d'Histoire Naturelle* which I had been obliged to quote from the new edition of 1816-1819, remarking "1802-1804 ed. not seen". Fortunately, my colleague, Mr. Tom Iredale, has recently purchased from Europe a set of the scarce first edition of this dictionary, so I am now in a position to make known the quite important features of its ichthyological contents. The dates of publication of the livraisons have been provided by Osgood (*Proc. Biol. Soc. Washington*, xxvii., February 2, 1914, 3, from C. W. Richmond's data. See also Sherborn's *Index Animalium*), but these must be slightly modified in the light of Patrin's observations (*Nouv. Dict.*, ed. 1, xvii., 1803, 524), the revised dates being as follows:—

Livraison.	Volumes.	Published by
1	i.-iii.	3 Dec., 1802
2	iv.-vi.	4 Feb., 1803
3	vii.-ix.	14 Apr., 1803
4	x.-xii.	13 June, 1803
5	xiii.-xv.	20 July, 1803
6	xvi.-xviii.	8 Nov., 1803
7	xix.-xxi.	22 Dec., 1803
8	xxii.-xxiv.	7 Mar., 1804

At this early period, before the time of Cuvier and his disciples, little advance had been made on the work of Lacépède, nevertheless Louis Bosc, the author of the fish articles in this dictionary, made a few innovations, and in the twenty-fourth volume, Pierre Latreille gave a very up-to-date classification of fishes, in which several new names or latinizations of other authors' vernaculars appear. Louis Augustin Guillaume Bosc (1759-1828) was an excellent zoologist and botanist, and, as an ichthyologist, was something of a pioneer. He crossed to America, to take up consular duties at Charleston, and en route made field notes on flying fishes, dolphins, and sharks. He caught numerous fishes around Charleston and some of these were described in Lacépède's *Histoire Naturelle des Poissons*, but in this *Nouveau Dictionnaire*, Bosc described as new several species which have apparently been overlooked by American ichthyologists. Some of them were vernacularly named by Bosc and latinized by Pierre André Latreille (1762-1833), the famous entomologist. Most of these are synonyms of earlier species, as follows:—

- (a) *Makaira albicans* Latreille, *Nouv. Dict. d'Hist. Nat.*, ed. 1, xxiv., March 7, 1804, Tabl. Meth. 104. Latinization of "le Makaira blanche", Bosc, *ibid.*, xiii., 1803, 558. Vernac. name for a sailfish figured in Marcgrave's *Brazil*, p. 171.

This is the earliest name for an American swordfish and replaces *Histiophorus americanus* Cuvier and Valenciennes (*Hist. Nat. Poiss.*, viii., "1831" = January, 1832, 303), likewise based on Marcgrave's figure. This species was recently added to the British fauna by Norman (*Nat. Hist.*

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Mag., ii., 9, 1929, 32 and figs.; Journ. Mar. Biol. Assoc. U.K. (n.s.), xvi., 1, 1929, 67-70, 2 figs.), and should now be known as *ISTIOPHORUS ALBICANS* (Latreille).

(b) *Squalus carolinianus* Latreille, Nouv. Dict. d'Hist. Nat., ed. 1, xxiv., 1804, Tabl. Meth. 71. New name for "Le Squale carolinien" Bosc, *ibid.*, xxi., 1803, 190, from Carolina.

This is evidently a synonym of *RENICEPS TIBURO* (Linné).

(c) *Pleuronectes argiolus* Bosc, Nouv. Dict. d'Hist. Nat., ed. 1, xviii., 1803, 130, pl. M. 8, fig. 9, from Carolina. *Id.* Latreille, *ibid.* xxiv., 1804, 79.

This flounder is obviously *PARALICHTHYS DENTATUS* (Linné), previously described from Carolina, whence it has been figured by H. M. Smith (N. Carolina Geol. and Econ. Survey, ii., 1907, 386, fig. 178).

(d) *Lophius laevis* Latreille, Nouv. Dict. d'Hist. Nat., ed. 1, xxiv., 1804, Tabl. Meth. 73. New name, credited to Bosc, for "La Lophie Unie" Bosc, *ibid.* xiii., 1803, 313, pl., found on floating weed between Europe and America.

This may be a *Histrio*, but I cannot be sure. Unfortunately, Latreille's name antedates *Lophius laevis*, a name proposed for an Australian fish by Lacépède (Ann. Mus. Hist. Nat. Paris, iv., May, 1804, 210), so the Australian species may now be called *SYMPTERICHTHYS UNIPENNIS* (Cuvier) instead.

(e) *Raja scabra* Latreille, Nouv. Dict. d'Hist. Nat., ed. 1, xxiv., 1804, Tabl. Meth., 72 and footnote 2. New name for *Raia tuberculata* Bonnaterre, non Lacépède.

This new name was unnecessary, as *Raia tuberculata* Bonnaterre (Tabl. Encycl. Meth., Ichth., 1788, 3), which is apparently the British Shagreen Ray (*Raja fullonica* Linné) has priority of publication over *Raja tuberculata* Lacépède (Hist. Nat. Poiss., ii., 1800, 104, pl. iv., fig. 1) from Cayenne. In any case, Latreille's name is preoccupied by *Raja scabra* Linné (Mus. Adolph. Frid., ii., 1764, 52) from the Mediterranean.

So much for the new species (ignoring latinizations), now for the genera. In this dictionary, Bosc selected genotypes for various classes of animals and plants. The ichthyological ones, in his own words, are as follows, my comments being added in square brackets:—

Vol. vii., 72. *CYNAEDE*, nom donné par Gronovius à un genre qui fait partie des *sparés* de Linnaeus. Il a pour type le *sparé sargue*.

[This is the first known selection of a logotype in ichthyology; the fact that it is stated in vernacular form does not, in my opinion, invalidate the selection. *Cynaedus* Gronov. = *Cynedus* Scopoli, 1777, and the genotype, according to Bosc, is *Sparus sargus* Linné, 1758.]

Vol. vii., 477. *ELEOTRIS*, genre de poissons établi par Gronovius, mais qui fait partie des *gobies* de Linnaeus. Il a pour type la *gobie noire*.

Vol. vii., 541. *ENCHELYOPE*, genre de poissons établi par Gronovius, mais qui a été confondu par Linnaeus parmi les *blennies*. Il a pour type la *blennie ovovipare*.

Vol. viii., 74. *ERICHELYOPE*, nom donné par Gronovius à un genre de poissons qui fait partie des *blennies* de Linnaeus. Il a pour type le *blennie vivipare*.

["Erichelyope" is evidently a misprint for "Enchelyope", or *Enchelyopus* Gronovius, 1760; genotype, *Blennius viviparus* Linné.]

Vol. ix., 569. *GONORYNCHE*, genre de poissons établi par Gronovius, mais fondu par Linnaeus parmi les *cyprins*. Il a pour type le *cyprin* de ce nom.

Vol. xiii., 86. *LEPIDOPE*, genre de poissons établi par Gouan, mais réuni

aux *trichiures* de Linnaeus. Il a pour type le *trichiure caudé*.

Vol. xv., 10. MOLENAER, nom donné par Gronovius à un genre de poissons qui fait partie des *gades* de Linnaeus. Il a pour type le *gade merlan*.

I have been unable to trace any such generic name, the group of cods to which *Gadus merlangus* Linné belongs was later called *Merlangus* by Cuvier, but his name was apparently invalidated by *Merlangus* Rafinesque. In the second edition of the *Nouv. Dict.* (Tome, xxi., 1818, 259), Bosc briefly remarked: "MOLENAER. Genre de poissons qui fait partie des GADES de Linnaeus." In the previous tome, Bosc cited *Gadus merlangus* as type of the subgenus *Merlangus* Cuvier. Sherborn quotes a genus *Merlangius* Geoffroy, Desc. 719 Plant, etc., 1767, 401.]

Vol. xv., 323. MYSTE, genre de poissons établi par Gronovius, mais qui fait partie des *silures* de Linnaeus. Il a pour type, le *silure alasia*.

Vol. xvii., 244. PERCIDI, genre de poissons établi par Scopoli, mais réuni aux *cottes* par Pallas. Il a pour type le *cotte du Japon*.

Vol. xvii., 407. PHOLIS, nom d'un genre de poissons établi par Gronovius mais qui fait partie des *blennies* de Linnaeus. Il a pour type le *blennie gunelle*.

Vol. xviii., 555. PTERACLIDE, genre de poissons établi par Gronovius, mais confondu par Linnaeus avec les *Coryphenes*. Il a pour type le *coryphaena velifera*. Lacépède a rétabli ce genre sous le nom d'Oligopode.

I have searched carefully through the first edition of this dictionary, but the above are all the genotype designations I have been able to find.

(2) Bancroft's types of Devil Rays.

E. N. Bancroft, in the *Zoological Journal*, Vol. iv., 1829, 452, designated two genotypes for Devil Rays:—

Dicerobatus Blainville (type, *Raia fimbriata* Lacépède).

Cephalopterus Dumeril (type, *Raia giorna* Lacépède).

(3) Jordan and Evermann, and bracketed genera.

As mentioned in my previous paper, genotypes were often indicated, without being specifically designated as such, by being bracketed at the end of references to genera by Jordan, Evermann, and their colleagues. "This style was often followed by Waite, McCulloch, and others, and may not be strictly considered type-designation" (*Austr. Zool.*, viii., 1935, 139). I am now pleased to be able to accept all such quotations as type-designations in view of the statement, validating them, made by Jordan and Evermann (*Rept. U.S. Fish. Comm.*, 1895, append. v., December 28, 1896, 210): "The name in parenthesis following the reference to the generic name is that of the species taken by the describer as the type of the genus."

(4) Type-designations by G. S. Myers.

Dr. George S. Myers, of the Smithsonian Institution, United States National Museum, Washington, having read my earlier paper, informs me (*in lit.*, 7 November, 1935):—

"I designated some generic types in Cyprinidae and Characidae in *Amer. Mus. Novit.*, numbers 265 (page 4) and 342 (page 6). Also some Achirids in *Copeia*, No. 171, 1929."

The following references may therefore be added to, or rehabilitated in, my earlier list:—

1802-04. Bosc, *Nouv. Dict. d'Hist. Nat.*, ed. 1.

Cynaedus Gron. [= *Cynedus* Scopoli]: Type, *Sparus sargus* Linné.

- Eleotris* Gron. [= Meuschen]: *Gobius niger* Linné. [Invalid selection, because *Eleotris eleotris* Meuschen or *Gobius eleotris* Linné is tautotype. If *niger* were type, *Eleotris* would equal *Gobius*.]
- Enchelyopus* Gron.: *Blennius viviparus* Linné.
- Gonorynchus* Gron. [= Scopoli]: *Cyprinus gonorhynchus* Linné.
- Lepidopus* Gouan: *Trichiurus caudatus* Euphr. "Molenaer", vernac. [? *Merlangius* Geoffroy]: *Gadus merlangus* Linné.
- Mystus* Gron.: *Silurus clarias* Linné.
- Percis* Scopoli: *Cottus japonicus* Pallas.
- Pholis* Gron.: *Blennius gunnellus* Linné.
- Pteraclis* Gron.: *Coryphaena velifera* Pallas.
1829. BANCROFT, *Zoological Journal*, iv., 1829, 452.
- Dicerobatus* Blainville: Type, *Raia fimbriata* Lacépède.
- Cephalopterus* Dumeril: Type, *Raia giorna* Lacépède.
1854. AGASSIZ, *Amer. Journ. Sci. Arts* (2), xvii., 297-308 and 353-365. [Alabama fishes.]
1877. JORDAN, and others. *Proc. Acad. Nat. Sci. Philadelphia*. [Freshwater fishes of North America.]
- 1896-1900. JORDAN & EVERMANN, Check-List Fish. N. & Mid. America, in *Rept. U.S. Fish. Comm.*, 1895, Append. v., and the monumental *Bulletin U.S. Nat. Mus.*, xlvii.
- 1899 onwards. WAITE, various papers. For bibliography, see Hale, *Rec. S. Austr. Mus.*, iii., 4, 1928, 345. Waite only began to mention genotypes in his "Thetis" Report of 1899.
- 1910 onwards. OPINIONS rendered by the INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE.
- [The Opinions have been published by the Smithsonian Institution and summarized or quoted from time to time in other journals (*Proc. Biol. Soc. Washington*, xxxix., 1926; *Nature*; *Zoologischer Anzeiger*; etc.) and should be studied for methods and practises of type-designation. Types of fish genera are mentioned in opinions 14, 16, 19, 20, 21, 22, 23, 26, 33, 42, 44, 45, 47, 54, 58, 68, 69, 75, 77, 92, and 93, some of which may need revision in the light of fresh data. Opinions 94 to 123 (January, 1931), the last available to me, do not concern fishes.]
1921. McCULLOCH. Check-List of the Fishes and Fish-like Animals of New South Wales. *Austr. Zool. Handbook*, i., ex *Austr. Zool.*, and other papers. For bibliography, see Whitley, *Rec. Austr. Mus.*, xv., 1926, 143.
- 1929, etc. MYERS. Papers in *American Museum Novitates*, *Copeia*, *Smithson. Misc. Coll.*, *Ann. Mag. Nat. Hist.*, and various American and Chinese publications.
1932. GROSS. *Antiarchi, Fossilium Catalogus*, i.; *Animalia*, part 57. [The previous parts of this Catalogue dealing with fishes, were Nos. 24, *Otolithi Piscium*, and 33, *Pisces Triadici*, in which I cannot see any logotypes.]

More recent papers are too numerous to mention and will be familiar to working ichthyologists, but I should be glad to learn of any fresh references to genotype-selectors which may come to light, if their finders would kindly communicate them to me at The Australian Museum, Sydney.